



STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

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August 22, 2007

Mr. Orlando Monaco
Department of Navy
Base Realignment and Closure
Program Management Office-Northeast
4911 South Broad Street
Philadelphia, PA 19112-1303

Re: Sites 1,3 & Eastern Plume, Monitoring Event 28
Naval Air Station, Brunswick, Maine

Dear Mr. Monaco:

Pursuant to Section VI of the Naval Air Station, Brunswick, Maine Federal Facility Agreement (Oct 1990), as amended, the Maine Department of Environmental Protection (MEDEP) has reviewed the draft "Sites 1,3 and Eastern Plume, Monitoring Event 28 Report, April 2007, dated May 2007, prepared by Environmental Chemical Corporation. Based on that review MEDEP has the following comments and issues.

General Comments:

1. The data for Monitoring Event (ME) 28 are generally consistent with previous rounds, notable exceptions are included in the specific comments below. The April and June 2006 monitoring event omitted several locations included in the approved 2000 Long-Term Monitoring Plan (LTMP). This issue is being addressed through dispute resolution and will not be noted except where the omissions affect specific conclusions in the report.
2. MEDEP generally agrees with and supports USEPA comments dated July 2, 2007, on this draft report. In particular MEDEP supports the need to evaluate groundwater concentrations of arsenic and manganese within the Eastern Plume as part of the site-wide background study. MEDEP also supports USEPA comment #7 from the July 2 letter, the report and Tables 1-1 and 1-2 should state that the wells, parameters and frequency apply specifically to ME 28 only or reference the appropriate version of the LTMP. Other specific comments are noted below.
3. Correspondence between USEPA and Navy relating to the presence of 1,4 Dioxane in the Eastern Plume, and the need for treatment under the ROD has led to a Navy proposal to proceed with the CERCLA Remedial Investigation process to evaluate the nature and extent of 1,4 Dioxane in the plume and perhaps elsewhere at the site as part of the background study. As an interim step prior to this investigation proceeding MEDEP believes a focused synoptic round of water levels in the vicinity of the GWETS infiltration gallery would support a

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better understanding of flowpaths downgradient of the system. The wells typically included in the bi-annual LTM do not provide coverage near the GWETS. When the flowpaths are defined, optimum sample points can be selected to determine the influence of the re-introduction of 1,4 dioxane into the Eastern Plume by the GWETS.

4. It is also notable that this is the first LTM round with the six new wells installed downgradient of the gap in the slurry wall at Landfills 1&3. The data indicate the presence of volatile organic compounds (VOCs), primarily breakdown products of 1,1,1 TCA, and metals such as iron, manganese and lead. This appears to be one of the few locations where VOC degradation/dechlorination is proceeding beyond 1,1 DCA in the groundwater, based upon the vinyl chloride and chloroethane concentrations detected.

Specific Comments:

5. Section 1.2, Figures 1-4 and 1-5 and Tables 1-1 and 1-3:

a.) The plotted groundwater elevation contours appear to be incorrect in several locations. On Figure 1-4, the 30 and 35 foot contour miss several of the wells north of the Weapons Compound and west of the Eastern Plume. On Figure 1-5, the 24, 27, and 30-foot contours also are not picking up wells in the same area.

b.) Table 1-1 indicates MW-204, MW-220, MW-240, and MW-2101 are not required for gauging, but based on Table 1-3 they were gauged this round. Please revise as needed.

6. Section 1.3: "In addition to these 10 wells, the Navy installed three monitoring well..."

Please revise the text to reflect that the 6 new wells and 4 existing wells (10 total) were sampled in ME28.

7. Section 1.3: "Water quality indicator parameters, including pH, specific conductance..."

Only tables 1-7 and 1-8 are included. Please include the field parameter tables for the other locations sampled this round.

8. Section 2.4.1, MW-218 table: The ME28 date is listed as 2007, please revise.

9. Section 2.4.5: "No trending is shown since sampling is conducted on an annual basis."

MEDEP is uncertain why trending cannot be shown for annual sampling, please revise or provide further justification, as trends are interpreted for groundwater locations sampled annually for other locations at NASB.

10. Section 2.5.1, Appendix C figure 199: The trend figure for MW-332 has not been updated for ME27 and ME28, please revise.

11. Section 2.5.2, Appendix B tables and Appendix C figures:

a.) MW-231A – The detection limit for 1,1 DCE was listed as 10 ug/L (over the MEG/MCL) and there were trace detections of 1,1 DCA and 1,2 DCE (total). These are some of the first detections of VOCs at this location, and if they persist represent another portion of the leading edge of the plume.

b.) MW-308 – the detections this round are a significant increase from previous rounds, and are also represent the first low-flow sample data in several years. This location may need to be re-evaluated for PDB placement depth or possibly needs re-development for the PDB to provide a representative sample.

c.) MW-313 – MEDEP was unable to find any historical values approaching the TVOC high concentration of 18,990 ug/L noted in the table. Please revise as needed.

12. Section 3.1, Conclusions and Recommendations:

a.) Bullet 1: *"These elevated VOC concentrations are within the plume..."*

MEDEP believes MW-230A is appropriately noted as within the plume, based on several detections of TCE in excess of the MCL, and based on the overall migration of the plume to the south of Mere Brook. MEDEP agrees with the targeting of hot-spots to reduce overall VOC concentrations and improve removal rates by the extraction system.

b.) Bullet 2, Recommendation: MEDEP agrees with the Navy's recommendation to discontinue MNA sampling program at this time.

c.) Bullet 3, Recommendation: MEDEP had a difficult time making sense of this recommendation. It appears that two investigations are discussed. First, the joint effort by MEDEP, EPA and the Navy for the porewater investigation implemented in two phases, August and September 2005, but this investigation had no connection with Monitoring Event 27. The subsequent investigation performed by ECC in 2007 was a result of the initial porewater investigation. Please edit the recommendation heavily for verb tense and for clarity.

d.) Bullet 4: MEDEP will consider the results of the fish tissue study prior to any optimization of the surface water or leachate seep locations. Groundwater is also impacted by chlorinated VOCs downgradient of the landfill, and MEDEP cannot fully agree with this conclusion due to the LTMP issues noted elsewhere.

e.) Bullet 5: MEDEP agrees that the extraction network has been successful in reducing VOC concentrations in some areas of the plume, but notes that hydraulic control is also exerted by the geology and hydrogeology in the area, as demonstrated by the migration of the southern and eastern boundaries of the plume. MEDEP also supports the USEPA comment on this section.

13. Section 3.1, Long-Term Monitoring Objectives:

Bullets 2 & 4 – MEDEP agrees the groundwater model under development and the ongoing Mere Brook Investigation will be important for a comprehensive evaluation of the groundwater extraction network effectiveness. Assessing the chemical and gauging data alone will not be sufficient to complete a detailed evaluation of the capture zone and degree of hydraulic control achieved by the current network. Future changes in the extraction well network will require reconsideration of the LTMP wells and frequency to evaluate any changes in the plume distribution.

14. Figure 2-2 and Appendix B, Table B-3:

The title box for the figure is dated 2005, please revise. Also the TVOC value for MW-231A should be noted as 3.6 ug/L rather than "0".

15. Table 1-4, MW-207AR and MW-331:

a.) MW-331 has the highest total VOC concentration of any well in the Eastern Plume, and is one of the few gauging points in the central portion of the plume. Navy must make an effort to correct the obstruction so gauging can be completed, or evaluate alternate water level meters with a smaller diameter probe so that this data point can be collected in future events.

b.) MW-207AR was installed in 2002, please confirm a bottom depth for this location.

16. Appendix B, Table B-12: The non-detects for alpha and gamma-chlordane, and hexachlorobenzene are noted as "0U". Was this the reporting limit provided by the laboratory, or was the value low enough to fall out due to significant digits in the printout?

17. Appendix B, Table B-9: The TVOC value for SW-10 is listed as 4.57 ug/L, however only bromoform is listed at 0.57 ug/L. Please revise the table, as needed.

18. Appendix C, Extraction wells: The plots for the extraction wells have not been updated to 2006, please revise.

19. Appendix D, Page 30: The aqueous VOC MDLs are listed as mg/L rather than ug/L, please revise.

Please contact me at (207) 287-7713 or claudia.b.sait@maine.gov, if you have any questions or comments.

Respectfully,



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